

## ABSTRACT OF THE DISCLOSURE

A piezoelectric device connected to a vibration source converts vibration energy to electrical current. A plurality of pairs of oppositely polarized piezoelectric wafers deflect to produce an electrical current. Each pair of wafers are arranged back-to-back and electrically joined together. The plurality of pairs of wafers are each connected to a set of micro-machined parts. Each pair of wafers form a bimorph, configured as a cantilevered beam attached to a set of parts to form an element. Each cantilevered beam has a mass weighted first end and is fixedly attached to one or more flexible sheaths on a second end. A plurality of elements form a cell unit. A plurality of cell units form an array. The electrical current produced varies by the number of elements per cell unit, and/or with the number of cell units per array.